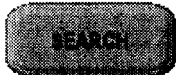
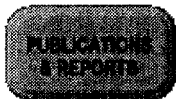




Office of Research & Development



How ORD is Organized Around the "Risk Assessment / Risk Management Paradigm"

To understand ORD's research program, it helps to be familiar with the "risk paradigm," an important Agency organizing principle. The risk paradigm consists of two interrelated phases, risk assessment and risk management. Risk assessment is the process used to evaluate the degree and probability of harm to human health and the environment from such stressors as pollution or habitat loss. The risk assessment process, as proposed by the National Academy Sciences (NAS) in 1983, consists of:

- Exposure Assessment - describing the populations or ecosystems exposed to stressor and the magnitude, duration, and spatial extent of exposure
- Hazard Identification - identifying adverse effects (e.g., short-term illness, cancer) that may occur from exposure to environmental stressors
- Dose-Response Assessment - determining the toxicity or potency of stressors
- Risk Characterization - using the data collected in the first three steps to estimate and describe the effects of human or ecological exposure to stressors

Risk management entails determining whether and how risks should be managed or reduced is based on the results of the risk assessment as well as other factors (e.g., public health, soc and economic factors). Risk management options include pollution prevention or control technologies to reduce or eliminate the pollutant or other stressor on the environment. The environmental or public health impacts resulting from risk management decisions must then be monitored so that any necessary adjustments can be made.

A simple diagram of risk assessment and risk management is shown in the figure below.

ORD has aligned its organizational structure to comport with this risk paradigm and has made the principles central to its strategy for determining priorities for environmental research. ORD organizations correspond to the risk paradigm as follows:

National Health and Environmental Effects Research Laboratory: hazard identification and dose-response assessment

National Exposure Research Laboratory: exposure assessment

National Center for Environmental Assessment: risk characterization

National Risk Management Research Laboratory: risk management

National Center for Environmental Research: all phases of risk assessment and risk management

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